Amendments to Claims

1. (Previously Presented) A machine-readable storage medium containing a set of instructions for causing a computing device to execute a method to calculate an economic value created by a manufacturing process for manufacturing products produced in a plurality of production units 1, 2, … , m, …, n-1, and n,

the production units respectively consuming ingredient materials Y_1, Y_2, . . ., Y_m , …, Y_{n-1}, Y_n, and respectively producing products X_1, X_2, . . ., X_m . . ., X_{n-1}, X_n,

wherein a product X_m produced in a production unit m can flow as an ingredient material Y_{m+1} to a subsequent production unit m+1, or can flow as an ingredient material Y_1, Y_2, ... Y_{m-1} to one or more previous production units 1, 2, …, m-1,

said method comprising the steps of:

a) calculating an aggregate cost of each product manufactured by:

i) collecting cost data from diverse sources into a relational database, the cost data collected by the steps of:

1) collecting utility and ingredient materials cost for each product;

2) assembling cost data for each production unit;

3) assembling productivity, composition and packaging data for each product;

4) collecting manufacturing volume by product for each production unit;

5) apportioning the product X_m produced by each production unit m as ingredients Y to each of the other previous production units 1, 2, …, m-1, and subsequent production unit m+1 to establish a production mix;

b) establishing a predetermined threshold for the difference between the entered or previously calculated ingredient cost and the aggregate cost of manufacture;

c) upon receiving a cost change that affects the aggregate cost of manufacture, comparing the cost of ingredients Y of the ingredients list for all production units to the cost of manufacture for each product X to determine each affected ingredient Y;

d) calculating an aggregate cost of manufacture of each product X_m based upon the production mix entered for each production unit m;

e) for each affected ingredient Y that is used by a production unit to manufacture a product X, calculating a difference between the entered or previously calculated ingredient costs and the aggregate cost of manufacture, the fixed cost and the variable cost being calculated independently;

f) if the difference between the entered or previously calculated ingredient cost and the aggregate cost of manufacture exceeds the predetermined threshold, replacing the ingredient cost with the aggregate cost of manufacture;

g) recalculating all aggregate cost of manufacture values for all affected products; and

h) if the difference between all entered or previously calculated ingredient costs and the aggregate costs of manufacture exceeds the predetermined threshold, repeating step f) and g);

i) selecting one or more parameters, the parameters comprising a customer, a sales region, a product grade and a market segment;

j) calculating a sales volume and a net price related to the one or more parameters;

k) calculating a manufacturing contribution related to the one or more parameters;

l) calculating an after tax operating income related to the one or more parameters;

m) using the calculations of steps a) through l), calculating an economic value added for the one or more parameters, thereby determining the economic value created by the manufacturing process.

2.   (Canceled)

3. (Previously Presented) The machine-readable storage medium of claim 1 wherein the collection step a) i) is accomplished by loading the data into predetermined fields in a relational database system.

4. (Previously Presented) The machine-readable storage medium of claim 3 wherein the collection step a) i) further comprises, before the loading step, the step of accumulating data in one or more spreadsheets.

5. (Previously Presented) The machine-readable storage medium of claim 1, further comprising, after each collection step, the step of generating a discrepancy report by determining if data required for a subsequent calculation is missing and analyzing the data against predetermined criteria for discrepancies or possible out of normal range values.

6. (Previously Presented) The machine-readable storage medium of claim 1 wherein the calculation steps a), d), g), j), k), l), and m) are performed by:
1) accessing the data in the predetermined fields of the relational database system;
2) applying predetermined equations to the data; and
3) storing the results in predetermined results fields in the relational database system.

7. (Previously Presented) The machine-readable storage medium of claim 6, further comprising, before each calculation step, the step of generating a discrepancy report by determining if data required for a subsequent calculation is missing and analyzing the data against predetermined criteria for discrepancies or possible out of normal range values.

8. (Previously Presented) The machine-readable storage medium of claim 6 further comprising displaying the results in a graphical format, the graphical format being user selectable from a plurality of graphical formats by:

4) defining each graphical format to have predetermined input parameters;

5) accessing the predetermined results fields of the relational database that correspond to the input parameters.

9. (Previously Presented) The machine-readable storage medium of claim 8 wherein the predetermined results fields are loaded into a spreadsheet and then into a pivot table to display the results.

10. (Previously Presented) The machine-readable storage medium of claim 8 wherein the graphical format is a numeric table, comprising a pivot table.

11. (Previously Presented) The machine-readable storage medium of claim 8 wherein the graphical format is a waterfall chart.

12. (Previously Presented) The machine-readable storage medium of claim 8 wherein the graphical format is a bar chart.

13. (Previously Presented) The machine-readable storage medium of claim 8 wherein the graphical format is a line graph.

14. (Previously Presented) The machine-readable storage medium of claim 1, wherein costs across families of products are distributed based upon shared use of manufacturing assets.

15. (Previously Presented) The machine-readable storage medium of claim 14, wherein the shared use of assets is

determined by the fraction of time a product family occupies each asset.

16. (Previously Presented) The machine-readable storage medium of claim 14, wherein the shared use of assets is determined by the volume fraction of a product family flowing through each asset.

17. (Previously Presented) The machine-readable storage medium of claim 14, wherein unexpected costs are allocated over all the products manufactured according to predetermined criteria.

18. (Previously Presented) The machine-readable storage medium of claim 1, further comprising, before each calculation step, a step of generating a discrepancy report by determining if data required for each calculation is missing and analyzing the data against predetermined criteria for discrepancies or possible out of normal range values.

19. (Previously Presented) The machine-readable storage medium of claim 18, further comprising a step of terminating the calculation if the discrepancy report indicates missing data or data containing discrepancies.

20. (Previously Presented) The machine-readable storage medium of claim 1, wherein the step a) of calculating an aggregate cost of a product manufacture or acquisition activity further comprises the step of :

ii) reconciling the cost of manufacture of an internally produced product grade with the raw materials list.

21. (Currently Amended) The machine-readable storage medium of claim 20, wherein the reconciling step comprises comprising the steps of:

1) upon receiving a cost change that can affect the cost of manufacture, comparing the Ingredients List for all production units to the cost of manufacture for each product to determine each affected ingredient, where the cost of manufacture is an aggregated value based upon the production mix entered;

2) for each affected ingredient that is used to manufacture a product grade, calculating the difference between an existing (entered or previously calculated) ingredient cost and the cost of manufacture, where the fixed cost and the variable cost is calculated independently;

3) if the difference between the existing ingredient cost and the cost of manufacture exceeds a predetermined threshold, updating the ingredient cost with the cost of manufacture;

4) initiating a recalculation of all cost of manufacture values for all affected grades;

5) repeating steps 1) through 4) until the difference between the entered ingredient cost and the cost of manufacture is less than or equal to the predetermined threshold or until a predetermined number of repetitions has been reached.

22.   (Currently Amended) A machine-readable storage medium containing a set of instructions for causing a computing device to calculate an economic value added (EVA) created by a at least a preselected one of a plurality of particular business activities that comprise a diversified business, said particular business activity being defined by one or more parameters ,

said parameters including at least (1) one or more customers, (2) one or more sales regions, (3) one or more product grades, and (4) one or more market segments;

wherein economic value added (EVA) is defined by the difference between after-tax operating income and cost of capital,

said instructions ~~comprising~~ including the ~~steps~~ step of:

a) receiving data regarding the diversified business from a user interface;

wherein the improvement comprises:

b) ~~calculating an aggregate cost of a product manufacture or acquisition activity~~ selecting one or more of the parameters for at least one particular business activity ;

c) from the received data, calculating a cost of product manufacture or acquisition activity for the selected particular business activity ~~providing an input port for a user to select one or more parameters, the parameters comprising a customer, a sales region, a product grade and a market segment~~ ;

d) from the received data, calculating a sales volume and a net price related to the one or more parameters of the selected particular business activity;

e) from the received data, calculating a manufacturing contribution related to the one or more parameters of the selected particular business activity;

f) from the received data, calculating an after tax operating income related to the one or more parameters of the selected particular business activity;

g) using the calculations of steps ~~b)~~ c) through f), calculating the ~~an~~ economic value added (EVA) ~~for the one or more parameters, thereby determining the economic value~~ created by the selected particular business activity

~~, wherein the economic value added is calculated by the equation:~~

~~EVA = ((MC_unit - SC_unit - RD_unit - OC_unit - AC_unit) x (1 - TX) - (NRA_unit x CC)) x SV~~

~~where EVA is the economic value added,~~

~~MC_unit is Manufacturing Contribution per unit of product (items, pounds, kilograms, etc.),~~

~~SC_unit is the selling cost per unit of product,~~

~~RD_unit is research and development cost per unit,~~

~~OC~~_{~~unit~~}~~is one time charges for the period per unit,~~

~~AC~~_{~~unit~~}~~is administration cost per unit, TX is the effective~~
~~tax rate,~~

~~NRA~~_{~~unit~~}~~is the net Return On Net Assets (Accounts Receivable~~
~~- Accounts Payable + Inventory + Permanent Investment~~
~~- Depreciation),~~

~~CC is the average cost of capital, and SV is the sales volume, i.e.,~~
~~total units sold~~ .

23. (Previously Presented) The machine-readable storage
medium of claim 1, the computing device utilizing a plurality of
electronic spreadsheets and a relational database, the
spreadsheets being used for the collection of data and the
display of results, the relational database being used to
receive the data from the spreadsheets, to calculate results in
accordance with predetermined equations and to store the results
in predefined data structures.

24. (Previously Presented) A system for computing an
economic value created by a manufacturing process, the system
executing the set of instructions stored in the machine-readable
storage medium of claim 1, the system comprising:
    a server node having a memory therein, the memory having a
user-interface section, a custodian-accessible section, a data
interface section, and a repository section,
        the user-interface section having at least one
        predetermined user-accessible form for entering data
        and at least one predetermined graphical format for
        viewing data and results;
        the custodian-accessible section having
        privileged access to the user-interface section, to
        the data interface section and to the repository
        section;
        the repository section having at least one
        relational database containing predefined records that

have been entered by a user or received by the data
interface and predetermined equations for operation
upon the records to produce results;

at least one user node connectible to the memory of the
server, the user node being operable in either an input mode or
an output mode,

when operable in the input mode, the user node being
connectible to the repository section for entry of data or for
editing of records previously entered by that user,

when operable in the output mode, the user node being
connectible to the repository section for retrieval of data and
results, the user node displaying data and results in accordance
with the at least one predetermined graphical format.

25. (Previously Presented) The machine-readable storage
medium of claim 1, further comprising, after step b):

b1) establishing a maximum number of repetitions to stop
the iterative process in case an erroneous value is entered or a
calculation error occurs; and

further comprising, after step g):

g1) stopping the repetition of steps f) and g) if the
maximum number of repetitions is reached before the difference
between all entered or previously calculated ingredient costs
and the aggregate costs of manufacture is less than or equal to
the predetermined threshold.